

flora, as in the former, by reckoning up how many are absent, how many present, out of each hundred or section.

Chapter VIII. is devoted to a detailed account of the altitudes reached by the several species: first upon the Grampians; secondly, upon the mountains of the North of England (Lakes and Yorkshire). A few of the upper limits attained in other less explored districts are added, as a kind of supplement to or check upon the two former lists. The upper and lower limits of the plants are both given, and the names succeed each other in a descending series. The desirableness of a careful survey of the heights attained in Wales is very justly insisted upon; and we must urge that duty as no unworthy undertaking for a strong-limbed and energetic botanist who would do his science some service, and turn his knowledge of species to account.

In Chapter IX. the Orders are contrasted,—first, according to their prevalence among British plants in Europe, and in the world; secondly, as they occur in the west and east, in the south, middle, and north of Britain; and thirdly, according to their proportion in the three stages or zones of elevation.

In Chapter X. the author gives us the general results or recapitulation of his labours. It is in accordance with Mr. Watson's dislike of general remarks, that he is himself especially diffident and cautious in suggesting conclusions. If it may be said, with some truth, that the fourth volume of the 'Cybele' does not offer many new solutions of the grand problems of geographical botany, it should be remembered that such was not the professed object of its author. But, as regards the distinctive features of the flora of Britain, there is in the concluding chapter a mass of most interesting information, of which, however, space will not here permit a sufficiently extended notice. We must reserve the analysis and discussion of this part of the subject for a future occasion.

*The Isle of Wight*

## PROCEEDINGS OF LEARNED SOCIETIES.

### ZOOLOGICAL SOCIETY.

January 11, 1860.—Dr. Gray, F.R.S., V.P., in the Chair.

DESCRIPTION OF A NEW SPECIES OF CUSCUS (*C. ORNATUS*)  
FROM THE ISLAND OF BATCHIAN. By DR. JOHN EDWARD  
GRAY, F.R.S., V.P.Z.S., PRES. ENT. SOC., ETC.

Mr. Wallace has sent to the British Museum a series of Mammalia collected in the Island of Batchian in the year 1859.

The most interesting specimen is a new species of the genus *Cuscus*, belonging to the section of the genus which has the inner surface of the ears bald. It may be thus described:—

#### CUSCUS ORNATUS.

Male pale golden-brown; back rather darker, with small irregular white spots; crown and back with a narrow longitudinal blackish

streak, which is darker on the back, black on the crown, and indistinct on the nape; beneath rather paler, with a broad white longitudinal streak near the middle of the chest and front of the abdomen; ears produced beyond the fur, naked internally; the skull with a very deep concavity between the orbits.

. *Hab.* Batchian.

This species is most like *Cuscus orientalis*; but in that animal the male is pure white. It differs entirely from *C. celebensis* (from Celebes) in the general colour of the fur, and in having a distinct streak on the head and back, somewhat like the streak on the back of the female *C. orientalis*, but narrower and darker.

It differs from all the other species in the nakedness of the inner surface of the ears.

The white streak on the chest and belly is not exactly in the middle of those parts; and there is a square white spot on the upper part of the right fore leg, not found on the other legs.

This animal may possibly be the coloured male of *C. orientalis*; but all the known males of that species are pure white. Can albinism be the usual, and this coloured male the unusual, characteristic of that species?

The skull of Mr. Wallace's animal from Batchian agrees in general character with the skull of *C. orientalis* (sent to the Museum as *Cuscus Quoyii* from the Moluccas), but is yet sufficiently unlike to render it very doubtful if it be not a distinct species. It is smaller; the impression on the crown is deeper and furnished with a much more decidedly raised edge, which is extended behind on the central line to the occiput; and there is a notch or ridge at the upper front angle of the orbit, not to be found on the skull of *C. orientalis*.

Some of the converts to the theory of the mutation of species may think that this animal is an instance in point; but such a hypothesis derives no support from the observations I have made.

All the difficulties here started arise from the imperfect material which the specimen affords for arriving at any definite opinion on the subject; and I believe that this is the explanation of nine-tenths, or I may say ninety-nine in a hundred, of the cases on which the theory is attempted to be established. This is not to be wondered at when we consider how very few are the animals, even of our own country, and more especially of exotic species and genera, whose history and anatomy have been properly studied. Most naturalists are of necessity in the habit of describing species from the few specimens which are brought from abroad in a more or less perfect state, without being acquainted with the changes which the animal undergoes in growing from its birth to maturity, and without the slightest indication of its habits and manners. Now, we know from experience amongst the British birds (such for example as the Rook and the Crow, and the species of the Willow Wrens), that if we were called on to describe them from such materials we might make great mistakes. A mere examination of stuffed specimens might well lead to doubts as to their distinctness as species, but this could never be the case if we had seen them alive in their native haunts, and

observed the extreme differences which exist in their habits, food, note, &c.

Judging from analogy, it is fair to believe that many of the species, even among the larger and best-known vertebrated animals, which are now considered doubtful, and sometimes only regarded as slight varieties, if properly observed and described, would prove to be quite distinct; and if this be the case with the larger animals, what must it be with the smaller articulated and molluscous or radiated animals, which are very rarely described, except from specimens in one condition, often indeed from some isolated part of the animal, as its shell or coral, as it is found in a museum? I cannot but think that until we have better materials to work from, it is rather rash to theorize on so important a question as the stability or mutability of species.

As regards the animal now before us, instead of knowing its history in all its states, and having a full account of its habits and manners (and I cannot conceive that any species is well established without all these particulars), we have only a skin with its separated skull, and that of one sex, of a genus in which the sexes sometimes differ greatly in external appearance, and of which the species are very imperfectly known.

Thus, for example, the section of the genus to which this specimen is referable contains at present two species,—one long known, and of which perhaps there are not more than twenty-five or thirty specimens in all the museums in Europe. The males in all these cases are pure white, and the females reddish with a narrow dorsal streak.

Last year I described a second species from a male, a female, and a young specimen in the British Museum, in which both sexes are ash-grey without any dorsal streaks, and which has not been observed in any other collection. Now I have described a third from a single adult male, which is bright reddish-yellow varied with white spots, having a very distinct narrow dorsal stripe. I have every reason to believe that this is a good and distinct species, but without stronger evidence I can hardly say that it is so, particularly as I have no knowledge of the female. Moreover, all the males of the species most nearly allied to it in the different museums are pure white, a colour which is very rare in the animal kingdom, except when it arises from a state of albinism; and the eyes of this animal are represented in the published figures as red, as if it were an albino; and this male specimen has a distinct dorsal streak, which is the character that distinguishes the female of *C. orientalis* from the other species of the genus. I am therefore induced to inquire, can the males which we have hitherto had have been albinos? and is this the naturally-coloured male of that species? And though I ask the question in order to induce other naturalists further to examine the subject, I am myself inclined to regard *C. ornatus* as a distinct species. Whether this be the case or not, I do not think that this specimen affords any ground for believing that the three species of the genus were derived from a common origin, and have gradually separated themselves from each other, more especially as they all seem to be

organized on very much the same plan, and are confined to a very limited space or group of islands on the earth's surface.

DESCRIPTION OF A SOFT TORTOISE (*ASPIDOCHELYS LIVINGSTONII*) FROM THE ZAMBESI, SENT TO THE BRITISH MUSEUM BY DR. LIVINGSTONE. BY DR. JOHN EDWARD GRAY, F.R.S., V.P.Z.S., PRES. ENT. SOC., ETC.

The British Museum has lately received from Dr. Livingstone the dorsal and sternal shields of a large fluviatile Soft Tortoise from the country near the Zambesi. It was accompanied by the skull of a foetal African Elephant, and some other bones of that animal.

Some years ago I received through the Earl of Derby a Soft Tortoise from the River Gambia, which differed from the genus *Emyda*, to which it was allied, in having no bones on the hinder part of the margin of the dorsal shield. I therefore proposed to establish for it a new genus.

When I described this genus I called it *Cyclanorbis*, but received a note from Dr. Peters, before the account of this genus was printed, in which he informed me that he had found near Mozambique, on the River Zambesi, a Tortoise which was called *Casi*, which wanted these bones on the hinder part of the margin of the dorsal shield, and which he had proposed to call *Cyclanosteus frenatus*, on account of certain black streaks on the head. I obliterated my name, and adopted that which my friend Dr. Peters had suggested, and described the one I had received from the Gambia under the name of *Cyclanosteus Petersii* (Proc. Zool. Soc. 1853; Ann. & Mag. N. H. 1855, xv. 69; Catalogue of Shielded Reptiles in the British Museum, 64, t. 29).

The animal from the Zambesi which we have received from Dr. Livingstone agrees with the animal from the Gambia in wanting the bones in the hinder part of the margin of the dorsal shield; but it differs so essentially in the structure of the sternum that it is necessary that another genus should be established for its reception. Now, it may be the *Casi* of the natives, but unfortunately Dr. Livingstone has not sent its native name, and it may be the *Cyclanosteus frenatus* of Dr. Peters; but I cannot find any description of that animal. It is not noticed, nor any other Tortoise, in the review of the Amphibia collected during his Travels, which Dr. Peters published in the 'Monatsberichte der Berliner Academie,' 1854, p. 614, and which is reprinted in Wiegmann's Arch. 1855, p. 43. Under these circumstances, as I applied Dr. Peters' name *Cyclanosteus* to the animal from the Gambia, and first gave the character to that genus derived from that species, and, as my description of that genus appears to be the only one that has been published, I think that the name *Cyclanosteus* must be retained for the Gambian Tortoise, although probably Dr. Peters in his note intended it to refer to the Mosambique form. If I do so, the reference to Dr. Peters' MS. must be erased from my account of the animal in the papers

above referred to, and I must give a new name to the genus, to be established on the Tortoise from the Zambesi.

This genus may be considered in some respects intermediate between *Cyclanosteus* and *Emyda*; for, though it has the simple flexible boneless hinder margin of the dorsal shield of the former genus, it has the seven sternal callosities of the latter; but these callosities, though they agree in number, are of a much smaller size compared with the size of the animal than those of the genus *Emyda*.

It is the giant of the group, agreeing in size and development with the genera of this family which have the legs exposed, and especially with the genera *Trionyx* and *Chitra*.

#### ASPIDOCHELYS.

Head —? Limbs —? The hinder margin of the dorsal disk expanded, flexible, without any bony plates. The sternum broad, rounded before and behind, hiding the feet, with very distinct moveable flaps over the hinder feet. Sternal callosities 7, the odd one behind the oblong anterior pair lunar, transverse, the hinder pair large, oblong, only united together on the hinder part of the inner margin.

*Hab.* Africa.

#### ASPIDOCHELYS LIVINGSTONII.

? *Cyclanosteus frenatus*, Peters, MSS. in Gray, Cat. Shielded Reptiles Brit. Mus. p. 64.

*Hab.* Mozambique, in tributaries of River Zambesi? (*Dr. Livingstone*).

The dorsal shield is 22 inches long and 17 inches wide over the convexity of the back.

#### FURTHER EVIDENCE OF THE DISTINCTNESS OF THE GAMBIAN AND RÜPPELL'S SPUR-WINGED GEESE (*PLECTROPTERUS GAMBENSIS* AND *P. RÜPPELLII*). BY PHILIP LUTLEY SCLATER, M.A., SECRETARY TO THE SOCIETY.

The recent death of the males of the two species of Spur-winged Geese (*Plectropterus gambensis* and *P. Rüppellii*), of which I pointed out the external differences at one of last year's meetings\* of the Society, has given me the desired opportunity of comparing the tracheæ and skeletons of the two birds, and showing that these afford ample corroboration of their specific distinctness. Before proceeding to do this, I should remark that the individuals to be compared are both, as we know from their dissection, adult males. The specimen of *P. gambensis* is in all probability the older of the two, having been living many years in the Society's Gardens. That of *P. Rüppellii* was received from Eastern Africa in June 1858.

Comparing, first of all, the skulls of these two birds together, we see that the frontal protuberance, which in *P. gambensis* (fig. 1) is

\* See P.Z.S. 1859, p. 131.

hardly elevated 0·2 inch above the general level, rises to an enormous size in *P. Rüppellii* (fig. 2), attaining a height of 1·05, a breadth of 0·75, and a length from back to front of 1·65. It may also be remarked that, from the hard character of the osseous structure in the protuberance of *P. gambensis*, it is obvious that it has reached its maximum of development. The outlines of the two skulls are represented in the accompanying woodcuts.

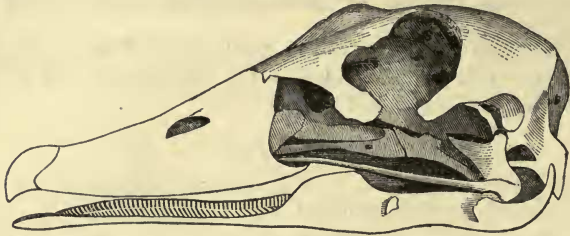


Fig. 1.

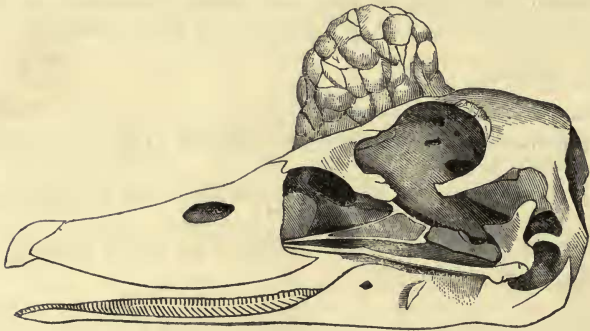


Fig. 2.

Their conformation is otherwise generally similar, that of *P. Rüppellii* being slightly narrower, and rather longer. It may be remarked, however, that the skull of *P. Rüppellii* is broader between the orbits; but that, drawing a vertical line from the middle of the space between the nostrils to a base-line joining the edges of the upper mandibles, and comparing them at this point, it is here narrower and more elevated,—the proportion of the vertical to the base being in *P. Rüppellii* about 3 : 5, in *P. gambensis* about 7 : 9. The depressed space between the protuberance and the naked part of the bill is also somewhat differently shaped in the two birds. In *P. Rüppellii* the outline of this space next to the protuberance forms a segment of a circle of which the centre is at the junction-point of the two other sides, so that the space enclosed is nearly a quadrant. In *P. gambensis* the corresponding outline is carried back much further towards the protuberance, and formed of two lines, which terminate in a central angle, so that the space enclosed is nearly a rhombus.

Dr. Günther has called my attention to the fact, that the orifices which commonly occur in the skulls of *Grallæ* and *Anatidæ*, situate in the occipital bone on both sides of the foramen magnum, are remarkably small in both these birds, particularly so in *P. Rüppellii*.

The sterna of the two birds, as far as the comparison can be made (that of *P. gambensis* being rather distorted by disease), do not present any material points for comparison. The foramina, which in both species are closed at the base, are rather longer and larger in *P. gambensis*.

The subjoined measurements in inches of the bones of the wings show that these organs are comparatively longer in *P. Rüppellii*, and the bones are likewise thicker and stronger:—

	<i>P. gambensis.</i>	<i>P. Rüppellii.</i>
Length of humerus . . . . .	7·4	7·6
— of ulna . . . . .	6·5	6·9
— of radius . . . . .	6·25	6·6
— of metacarpus . . . . .	3·8	4·0

Comparing the posterior extremities, we find the tarsi and toes, again, longer in *P. Rüppellii*, as the following dimensions prove:—

	<i>P. gambensis.</i>	<i>P. Rüppellii.</i>
Length of femur . . . . .	3·9	4·0
— of tibia . . . . .	6·8	7·1
— of tarsus . . . . .	4·5	4·6
— of middle toe from base of tarsus to the end of the nail . . . . .	4·45	4·6

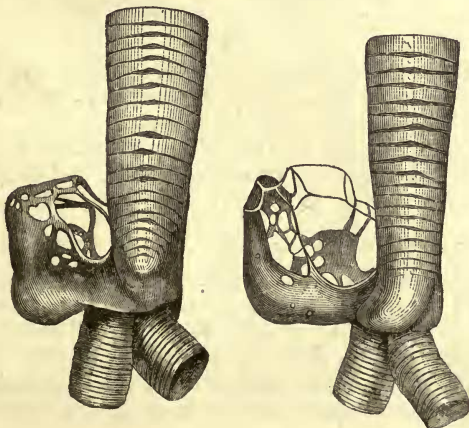
The pelvis is rather narrower in *P. Rüppellii*, the distance between the trochanters measuring 1·9 in. ; in *P. gambensis* 2·1 in.

The vertebræ are, cervical 15, dorsal 10, sacral 13, caudal 8 ; total 40 ; the true ribs 8, the false 2, in both species.

The tracheæ of these two birds, though, as might have been ex-

Fig. 1.

Fig. 2.



pected, showing a general resemblance, present the following differences, which are greater than such as are usually found in individuals of the same species.

When dried, they are of nearly the same length, viz. about 14·5 in.; but the bronchial rings are 151 in number in *P. Rüppellii*, and only 138 in *P. gambensis*. The tubes are flattened throughout the greater part, becoming cylindrical at 1·5 inch from the lower extremity. Here they are much compressed, and develop a large osseous bulb on the left side. The lower portion only of this bulb, as usual, is completely ossified, the upper part being covered with fine framework, which, as will be seen from the accompanying woodcut, assumes a different pattern in the two species. In *P. Rüppellii* (figs. 2 and 4) the bulb is wider, higher, and much compressed; in *P. gambensis* (figs. 1 and 3) shorter and comparatively much thicker. This is particularly observable in the side view, as shown in figs. 3 and 4.

Fig. 3.

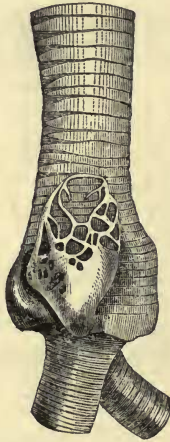


Fig. 4.



From Mr. Eyton's observations (Monogr. Anatidæ, p. 79) it is evident that the *trachea* of the female *Plectropterus* is, as is generally the case in this sex, destitute of the osseous bulb.

I have already pointed out the external characters by which the two Spur-winged Geese may be distinguished; and their synonymy will now stand somewhat as follows:—

#### 1. PLECTROPTERUS GAMBENSIS.

*Anas gambensis*, Linn.—*A. spinosa*, Vieill.; Lath. Gen. Syn. iii. pt. 2, p. 452, pl. 102; G. H. x. 241. — *Anser gambensis*, Benn. Gard. Men. Zool. Soc. ii. p. 207, cum fig. — *Plectropterus gambensis*, Steph. in Shaw, Zool. xii. pt. 2, p. 7, pl. 36; Hartl. Orn. West-Afr. (partim); Eyton, Monogr. Anat. p. 79; Selater, P.Z.S. 1859, p. 131, pl. 152. fig. 2.



*Sp. diagn.*—Minor: *protuberantia sincipitali maris parva: lateribus colli in utroque sexu plumosis.*

*Hab.* In Africa Occidentali, accidentaliter in Europa Meridionali.  
*Mus.* Brit.

## 2. PLECTROPTERUS RÜPPELLII.

*Cygnus gambensis*, Rüpp. Orn. Misc. p. 12, fig. 1.—*P. gambensis*, Denham and Clapp. Travels, App. p. 204; Hartl. Orn. West-Afr. p. 246 (partim); Sclater, P.Z.S. 1859, p. 131, pl. 152. f. 1.

*Sp. diagn.*—Major: *protuberantia sincipitali maris maxima: area rhombea ad colli latera nuda, carneo-rubra.*

*Hab.* In Africa Orientali et Centrali, in Dongola et lacu Tchad.

*Mus.* Brit.

The second species of *Plectropterus*, given by Stephens (*P. melanotus*, Shaw, Zool. xii. pt. 2, p. 8) and also met with by Denham and Clapperton (App. to Travels, p. 204), is *Sarcidiornis africana*, Eyton (Monogr. Anatidæ, p. 103).

January 24, 1860.—John Gould, Esq., V.P., in the Chair.

### DESCRIPTION OF A NEW SPECIES OF OPOSSUM, OBTAINED BY MR. FRASER IN ECUADOR. BY ROBERT F. TOMES.

#### DIDELPHYS WATERHOUSII, n. s.

*Fur rather long, soft, and of a cotton-like texture; general colour dark brownish-grey, tipped with rufous on the sides; under parts brownish-buff, with a stripe of yellowish-white along the centre of the throat and breast. A black mark through the eye, to near the end of the nose.*

Muffle of a broadly ovoid form, more deep than wide, the oval figure truncated at the bottom, where the upper lip constitutes its base; notch of the upper lip, occasioned by the mesial groove of the muffle, deep; on either side of it, in the edge of the lip, a double cleft. A horizontal depression passing through the centre of the muffle, serves, with the vertical groove, to divide it into four divisions or quarters, of which the two upper ones have a somewhat discoid form, and project laterally over the nostrils, partially hiding them. The two lower ones are marked, each with two oblique shallow depressions, passing from near the centre of the muffle to its outer margins, near the base.

Ears broadly ovoid, hairy on their hinder surface, at the base only, and of a dark brown colour, tinged with yellow at the auditory opening. Feet of a pale fleshy-brown colour, suffused with exceedingly fine short hairs, scarcely visible to the naked eye, but becoming thicker and longer on the upper surface of the fore feet. Nails small and nearly white, each with a tuft of straight hairs springing from their bases.

Tail of a uniform dark brown colour for the whole of its length\*,

\* Such is the appearance of the tail after being skinned and immersed in spirits; but Mr. Fraser's note of this animal is to this effect:—"Nose and feet pale flesh-colour, ears and tail a little darker." The young have the terminal two-thirds of the tail of this colour, after having been skinned and sent home in spirits.

and with the scales very indistinctly marked. Hairy portion at its base not exceeding half an inch in length.

The fur of the upper parts approaches to half an inch in length, and is of a dark grey colour, tipped with brown, which passes into a buffy-brown on the sides of the body. Outer surface of the limbs, the occiput, a space in front of the ear, and the fur on the base of the tail, of the same colour as the back. Around the eye a black mark, of small extent beneath and behind it, more extended above it, but most so in the direction of the snout, which it approaches very nearly. On the forehead the fur is pale brown, having the appearance of a pale streak between the two black marks. On all the under parts the hairs are unicolour, of a pale buff, palest on the mesial line, and on the throat and breast taking the form of a well-defined streak of pale yellow. Cheeks, chin, and lips buffy-brown.

Length of the head and body, about . . . . .	6	0
——— of the tail, about . . . . .	7	6
——— of the head . . . . .	1	7
——— from nose to ear . . . . .	1	2
——— from nose to eye . . . . .	0	5 $\frac{3}{4}$
——— of the ears . . . . .	0	7
Breadth of the ears . . . . .	0	7
Length of the humerus . . . . .	0	9
——— of the fore arm . . . . .	1	1
——— of the fore foot . . . . .	0	7
——— of the femur . . . . .	1	0
——— of the tibia . . . . .	1	4 $\frac{3}{4}$
——— of the hind foot . . . . .	0	10
Total length of skull . . . . .	1	5 $\frac{1}{2}$
Breadth across the zygomatic arches . . . . .	0	10
From front of foremost incisor to back of last molar . . . . .	0	8
Length of the nasal bones . . . . .	0	8
——— of the zygoma from its posterior root to the front margin of the orbit . . . . .	0	8
Breadth of the palate between the canines . . . . .	0	2
——— between the two hinder molars . . . . .	0	3 $\frac{1}{2}$
Length of the lower jaw . . . . .	1	0
Height from the posterior angle to the top of the coronoid process . . . . .	0	5
Length of the dental series in the lower jaw . . . . .	0	8

The young have all the under parts and inner surfaces of the limbs naked, and of a brownish flesh-colour. All the upper parts dark grey, almost black; the hairs short, shining, and adpressed. Basal third of the tail of the same colour, and similarly clothed with fine hairs; terminal two-thirds pale flesh-coloured, dusted with exceedingly fine white hairs, scarcely visible without the aid of a lens. Ears darkish flesh-colour, with both their surfaces well clothed with short and fine hairs of a silvery-grey colour. Nails white.

Length of the head and body, about	.....	3	6
——— of the tail, about	.....	3	0
——— of the head	.....	1	5

*Hab.* Gualaquiza. Collected by Mr. Fraser, Dec. 1857.

*Obs.*—This species was first described by Mr. Waterhouse in his excellent work on ‘Mammalia’\*, but without a name, and was compared with *D. cinerea*, from which it was observed to differ in having the hairy portion of the tail of much less extent, in having longer fur, and in being itself considerably smaller. The specimen examined was a male, and included in that section of Opossums characterized by a pouch “rudimentary or entirely wanting;” but the female obtained by Mr. Fraser (evidently of the same species) unquestionably possessed a complete pouch, as might be seen from an examination of the skin preserved in spirit; and Mr. Fraser’s note accompanying the specimen informs us that there were “five young in her pouch, each 3 inches long.”

This effectually disposes of the question as to its distinctness from *D. cinerea*, and in fact removes it to the other section.

To *D. noctivaga*, Tschudi, it bears some resemblance, in which species, as in *D. Waterhousii*, the fur on the base of the tail is of exceedingly limited extent, and both agree in having rather long fur, although of a different colour. But *D. noctivaga* is the larger species of the two, and is quite differently proportioned. Its muzzle is a great deal longer than that of *D. Waterhousii*, and the ears are much larger. Moreover the female is destitute of a pouch, and has in its stead “abdominal folds of the integuments.” The eyes too, according to Dr. Tschudi’s figure and Mr. Fraser’s note, are of a different colour.

Mr. Fraser’s note in full is as follows:—“♀ had five young in her pouch, each 3 inches long. Nose, chin, and latter half of the tail flesh-colour; ears black. Stomach contained bones of a small mammal, hair, and a pulp containing a vegetable substance. Eyes black. Xivaro name ‘*Juichma*.’”

I have named this animal after its original describer, as a tribute to a zoologist who has in such an eminent degree extended our knowledge in this branch of natural history.

NOTES ON SEMIOPTERA WALLACII, GRAY, FROM A LETTER ADDRESSED TO JOHN GOULD, ESQ., F.R.S., BY A. R. WALLACE, ESQ., DATED AMBOYNA, SEPT. 30, 1859.

“The *Semioptera Wallacii* frequents the lower trees of the virgin forests, and is almost constantly in motion. It flies from branch to branch, and clings to the twigs and even to the vertical smooth trunks almost as easily as a Woodpecker. It continually utters a harsh croaking cry, something between that of *Paradisea apoda* and the more musical cry of *Cicinnurus regius*. The males, at short

\* vol. i. p. 505.

intervals, open and flutter their wings, erect the long shoulder feathers, and expand the elegant shields on each side of the breast. Like the other Birds of Paradise, the females and young males far outnumber the fully plumaged birds, which renders it probable that the extraordinary accessory plumes are not fully developed until the second or third year. The bird seems to feed principally upon fruit, but it probably takes insects occasionally.

“The iris is of a deep olive; the bill horny-olive; the feet orange, and the claws horny.

“I have now obtained a few examples of apparently the same bird from *Gilolo*; but in these the crown is of a more decided violet hue, and the plumes of the breast are much larger.”

NOTES ON THE YOUNG OF *MENURA SUPERBA*. BY LUDWIG BECKER, ESQ., IN A LETTER TO JOHN GOULD, ESQ., F.R.S., ETC., DATED MELBOURNE, VICTORIA, SEPT. 24, 1859.

“In the month of October 1858 the nest of a Lyre-bird was found in the densely wooded ranges near the sources of the river Yarra-Yarra. It contained a bird, which seemed at first to be an old one in a sickly condition, as it did not attempt to escape; but it was soon discovered to be a young bird of very large size as compared with its helplessness. When taken out of the nest it screamed loudly; the note being high and sounding like ‘*tching-tching*.’ In a short time the mother bird, attracted by the call, arrived, and, notwithstanding the proverbial shyness of the species, flew within a few feet of its young, and tried in vain to deliver it from captivity by flapping her wings and making various rapid motions in different directions towards the captor. A shot brought down the poor bird, and with its mother near it the young *Menura* was soon silent and quiet. It was taken away and kept at a ‘*mia-mia*’ erected in the midst of the surrounding forest. The following is as correct a description of the bird as I can give you:—

“Its height was 16 inches; the body was covered with a brown down, but the wings and tail were already furnished with feathers of a dark brown colour. The head was thickly covered with a greyish-white down of from 1 to 2 inches in length; the eyes were hazel-brown; the beak blackish and soft; the legs nearly as large as those of a full-grown specimen, but it walked most awkwardly, with the legs bent inwards. It rose with difficulty, the wings assisting, and when on its legs, occasionally ran for a short distance, but often fell, apparently from want of strength to move the large and heavy bones of its legs properly. It constantly endeavoured to approach the camp fire, and it was a matter of some difficulty to keep it from a dangerous proximity to it. Its cry of ‘*tching-tching*’ was often uttered during the day time, as if recalling the parent bird; and when this call was answered by its keeper, feigning the note ‘*bullen-bullen*,’ the native name for the Lyre bird, and which is an imitation of the old birds’ cry, it followed the voice at once, and was easily led away by it. It soon became very tame,

and was exceedingly voracious, refusing no kind of food, but standing ready with widely gaping bill awaiting the approaching hand which held the food, consisting principally of worms and the larvæ of ants, commonly called 'ants' eggs;' but it did not refuse bits of meat, bread, &c. Occasionally it picked up ants' eggs from the ground, but was never able to swallow them, the muscles of the neck not having acquired sufficient power to effect the required jerk and throwing back of the head; it rarely, if ever, partook of water. It reposed in a nest made of moss and lined with opossum skin, where it appeared to be quite content; while asleep, the head was covered by one of the wings. When called 'bullen-bullen,' it awoke, looked for several seconds at the disturber, soon put its head under the wing again, and took no notice whatever of other sounds or voices. That the young *Menura* remains for a long time in the nest is proved by the manner in which it disposes of its droppings: our young captive always went backwards before dropping its dung, as if to avoid soiling the nest. It is probable that it leaves the nest in the day time when the warmth of the weather invites it so to do, but that during the night it remains in the nest; and if the weather should become cold the mother shelters her young, the nest being large enough to contain both."

#### DESCRIPTION OF A NEW SPECIES OF AMERICAN PARTRIDGE.

BY JOHN GOULD, ESQ., F.R.S., ETC.

##### EUPSYCHORTYX HYPOLEUCUS, Gould.

Forehead, stripe over each eye, throat and under surface creamy white, head and short crest reddish-brown, minutely freckled with darker brown; round the back of the neck a series of dark-brown feathers, tinted with rufous and spotted with creamy-white; general tint of the upper surface grey, mottled and finely freckled with rufous; the centre of the back marked with large blotches of black; wing-feathers freckled with black, and barred on their outer webs with black bounded posteriorly with white; tertiaries bordered with buff, lower part of the flanks and under tail-coverts dark brown spotted with white; tail brown, crossed by narrow, irregular, freckled, grey bars; bill black; feet light brown.

Total length, 7.5 inches; bill, 0.5; wing, 4.1; tail, 2.4; tarsi, 1.2.

*Hab.* Acajutla in Mexico.

*Remark.*—For a knowledge of this species I am indebted to the kindness of M. Jules Verreaux of Paris, who has entrusted it to my charge for the purpose of figuring and describing. M. Verreaux tells me he has seen a second example precisely similar in colour to the one here described, which latter circumstance has mainly induced me to consider it a distinct species. In its colouring it is one of the most remarkable members of the whole family; in size it is about equal to the *Eupsychortyx leucopogon*, but the crest is not so much developed as in that species; its white breast at once distinguishes it from that as well as from every other species.

ON A NEW SNAKE FROM THE GALAPAGOS ISLANDS.  
BY DR. ALBERT GÜNTHER.

The genus *Herpetodryas*, being composed of those *Dryadida* which have the maxillary teeth of equal length and entirely smooth, comprises snakes from America and from Madagascar. The following species comes from the Galapagos Islands, and appears to be the only Snake as yet known to inhabit that group\*.

HERPETODRYAS BISERIALIS.

*Diagnosis.*—Scales in nineteen rows; eight upper labials, three posterior oculars. Light brown, with a dark-brown dorsal band, serrated on the anterior portion of the trunk, and formed by a double series of spots on the middle and on the posterior part of the back. A dark-brown streak from the eye across the cheek. Belly irregularly dotted with brown.

*Hab.* In Charles Island (Galapagos). Typical specimen in the Collection of the British Museum.

*Description.*—The head is rather depressed, flat, and, like the trunk and tail, somewhat elongate; the eye is of moderate size, with the pupil round. The rostral does not reach to the upper surface of the snout; the anterior frontals are square, the posterior ones about twice the size and subquadrangular; the vertical is rather slender, twice as long as broad; the occipitals triangular and rather pointed posteriorly. The nostril is situated between two shields; the loreal nearly square; the anterior ocular extends to the upper surface of the head, and is in contact with the vertical. There are three posterior oculars, the middle of which is the smallest, the inferior forming a part of the lower portion of the orbit; the temporal shields are scale-like and rather irregularly arranged. There are eight upper labials, the fourth and fifth coming into the orbit. The median lower labial is triangular, and of moderate size; ten lower labials, the first of which is in contact with its fellow, behind the median shield. There are two pairs of elongate skin-shields of equal size. The scales are perfectly smooth, in nineteen rows, rhombic, those of the outer series being rather larger. Ventral plates 209; anal bifid; caudals 108.

The ground-colour is a light brownish-grey: a vertebral band, formed by dark brown spots, begins from the occiput, and is gradually lost on the middle of the tail; it is continuous anteriorly, and serrated on both sides, but gradually dissolved into two series of brown spots, the spots of each series being confluent on the end of

\* The first mention of a Snake on these islands seems to be in Dampier's 'Voy. Round the World,' ed. 7. vol. i. 8vo. Lond. 1729, p. 103:—"There are some Green Snakes on these islands; but no other land-animal that I did ever see."

Darwin says in his Journ. of Research., p. 381, speaking on the Zoology of the Galapagos Islands:—"There is one snake which is numerous; it is identical, as I am informed by M. Bibron, with the *Psammophis Temminckii* from Chile." Although subsequently, in the 'Erpétologie Générale,' nothing is mentioned by Duméril and Bibron about the occurrence of *P. Temminckii*, or of any other snake, in these islands, that determination of Bibron may possibly be correct. If such be the case, there are two species of Snakes in that group of islands.

the trunk ; there is a dark brown streak across the temple. The belly is greyish, and finely and irregularly speckled with brown.

	inches.	lines.
Total length . . . . .	14	3
Length of the head . . . . .	0	5
Greatest width of the head . . . . .	0	3
Length of the trunk . . . . .	10	0
Length of the tail . . . . .	3	10

The maxillary teeth are of moderate size, of nearly equal length, in a continuous series, and entirely smooth.

## MISCELLANEOUS.

### *Observations on the Corymbose Madreporæ.*

By M. A. VALENCIENNES.

ONE of our most elegant forms of Madrepora is that called *Madrepora corymbosa* by Lamarck. Reducing the characters of the genus to those now fixed by Ehrenberg, and studying the fine specimens contained in the Museum at Paris, the author has found that Lamarck united, under the name of *Madrepora corymbosa*, at least three distinct species: one hollowed out into a very shallow cup, brought by Péron and Lesueur in 1803, for which he retains Lamarck's name; a second, spread out in the form of a fan, which was obtained by the celebrated Professor of the Garden of Plants at the sale of the collection of Madame de Bois-Jourdain, which came from the Caribbean Sea, together with the first specimen ever seen in France of the recent *Encrinus* (*Encrinus caput-Medusæ*). To this species the author gives the name of *Madrepora flabillis*: it is characterized by the shortness of the branches, which are less slender than those of *M. corymbosa*, Lamk. and Val. The third species, more spread out and spinose, is named *M. corymbitis*, Val.; it appears to be intermediate between the two preceding species.

M. Milne-Edwards, in his work on Corals, has added a fine species of these Madreporæ, to which he has given the name of *Madrepora flabelliformis*: it is from the seas of Vanikolo; the specimen in the Paris Museum was obtained by MM. Hombron and Jacquinot in the voyage of Admiral d'Urville. This species is distinguished from the West Indian one by its closer and longer branches.

The Museum of Natural History has just acquired four new species of these corymbose Madreporæ, obtained at Marseilles by M. L. Rousseau, one of the assistants in the Museum. These beautifully preserved corals show, in a more certain manner than could have been suspected from the specimens deposited in our collections from the time of Lamarck, that the species of these corymbose Madreporæ obtained from the American seas are different from those of the great Indian Ocean, although preserving an analogous form in allied species. To establish this fact, the author first adduces the species to which he gives the name of *M. radicans*, of which the